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Placement Director: Professor Ufuk Akcigit, uakcigit@uchicago.edu, 773-702-0433
Graduate Student Coordinator: Robert Herbst, fherbst@uchicago.edu, 773-834-1972

Education

The University of Chicago, Booth School of Business and the Department of Economics
Ph.D. Candidate, Joint Program in Financial Economics, 2012 - 2018 (expected)

Tsinghua University, School of Economics and Management, 2008 - 2012
B.A., Economics and Finance (with honor)

Undergraduate Exchange Study, the University of Pennsylvania, Wharton School, Fall 2010

References

Lars Peter Hansen (Co-Chair)
The University of Chicago
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Zhiguo He(Co-Chair)
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Research and Teaching Fields

Primary: Banking, Networks in Economics
Secondary: Empirical Asset Pricing, Financial Econometrics

Job Market Paper

Interbank Runs: a Network Model of Systemic Liquidity Crunches [View]

Abstract: I study how interbank lending network structures affect financial fragility. Interbank lending is beneficial but subject to coordination failure. With interbank wholesale funding, banks' balance sheets become inflated, which give the senior retail depositors a sense of safety to allow more illiquid assets. In interbank runs, banks run on banks as they mutually reinforce each other to withdraw interbank lending. Banks' individually precautionary liquidity hoarding strategies are connected by the pairwise lending relationships. Mean-field analysis extracts the systemic behavior from the network of strategic interactions. I show such dispersed and indirectly linked interactions also lead to discontinuous and system-wide liquidity crunches, as if the interactions are centralized. Local insolvency shocks trigger the interbank run if the network is unraveled beyond a critical point. The model is applied to identify the optimal capital injection targets of

government bailouts, and study the systemic effects of the proposed regulations on restraining the highly connected banks.

Research Papers

Some Characteristics Are Risk Exposures, and the Rest Are Irrelevant [View]

with Bryan Kelly and Seth Pruitt

Abstract: We use a new method to estimate common risk factors and loadings in the cross section of asset returns. The method, Instrumented Principal Components Analysis (IPCA), allows for time-varying loadings in a latent factor return model by introducing observable characteristics that instrument for the unobservable dynamic loadings. If the characteristics' expected return relationship is driven by compensation for exposure to latent risk factors, IPCA will identify the corresponding latent factors. If no such factors exist, IPCA infers that the characteristic effect is compensation without risk and allocates it to an "anomaly" intercept. Studying returns and characteristics at the stock-level, we find that three IPCA factors explain the cross section of average returns significantly more accurately than existing factor models and produce characteristic-associated anomaly intercepts that are small and statistically insignificant. Furthermore, among a large collection of characteristics explored in the literature, only seven are statistically significant in the IPCA specification and are responsible for nearly 100% of the model's accuracy.

Instrumented Principal Component Analysis [View]

with Bryan Kelly and Seth Pruitt

Abstract: We propose a dynamic latent factor model in which the factor loadings are time-varying. Motivated by various economic theories, each item's loading is a function of the item's time-varying instrumental information plus error. Instrumented Principal Components Analysis (IPCA) estimates the model by optimizing the sample mean squared errors, and admits analytical solution based on singular value decomposition similar to PCA. In addition, the method is more parsimonious, accounts for more economic information, and deals with missing observation better than PCA. We show consistency and the asymptotic distribution of the estimators. An application to international macroeconomics suggests that a nation's import share, gross capital formation share, and overall level of GDP drive its relationship to a global growth factor, whereas population density does not.

The Reflection Channel of Shock Transmission in Production Networks [View]

Abstract: This paper studies the general equilibrium effects of industry-specific productivity shock in an economy in which sectors are connected via input-output linkages. My central finding is productivity shocks do not only travel downstream as is standard in the literature, but also trigger demand change at the final consumption industries, which propagates upstream. I label this novel mechanism "reflection channel". Differences of the elasticity of substitution of consumption and production for the final consumption industries drive the demand change. Empirically, the magnitude of the reflection channel is around three times greater than the previously studied downstream channel. When a positive productivity shock reaches a final consumption industry, consumers substitute towards it much more than producers substitute away, increasing the demand of its upstream industries, and vice versa.

Systemic Behavior in Network Games [In Progress]

Abstract: This paper studies the systemic equilibrium behavior of games played on networks. Amplifying pairwise strategic interactions dispersed on a network cause multiple equilibria that

are hard to characterize. Mean-field approximation extracts the systemic behavior by reducing the multi-dimensional equilibrium condition to a one-dimensional condition with respect to just the network-wide average action. I analyze the accuracy of the method in a degree-based random network model with weighted and directed connections. I show the approximation error converges to zero in probability as the size of the network increases.

Teaching Experience

Investments (MBA), teaching assistant for Prof. Bryan Kelly, Winter 2015, Winter, Summer 2016
Investments (MBA), teaching assistant for Prof. Michael Weber, Winter 2015
Theory of Income (PhD Macro Core), teaching assistant for Prof. Nancy Stokey, Winter 2014

Professional Activities and Presentations

2017: Third Annual Conference on Network Science and Economics (WUSTL), 10th Annual Society for Financial Econometrics (SoFiE) Conference (NYU), 2017 CITE Conference (Chicago)
2016: Trans-Atlantic Doctoral Conference (LBS), Macro Financial Modeling Summer Session for Young Scholars, NBER Summer Institute, New Developments in Measuring and Forecasting Financial Volatility (Duke),

Honors, Scholarships and Fellowships

The Theodore W. and Esther Schultz Economics Fellowship (2017 - 2018)
Financial Economics / Social Sciences Fellowship (2014 - 2017)
Department of Economics / Social Sciences Fellowship (2012 - 2014)
China National Scholarship (2011)

Pre-Graduate School Working Experiences

Morgan Stanley Huaxin Securities, Fixed Income Division, Summer Analyst, Shanghai, 2011
CITIC Securities, Equity Research, Summer Intern, Beijing, 2010

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